



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

D407-667-105
Job Sheet 202838



Part No: D407-667-105 Job Qty: 1 pcs

Part Name: Fwd Crosstube - High 407



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 11/4/19

Job Tracking No:

Due Date: 11/29/19

Created By: Marie Lajeunesse

Type: SOLD

Description:

Note: DWG D407-667-145 REV.D / IIN-D206-667 REV.D IPP Rev:F 05.09.01Add holes for comp. w/ Bell Skids
KJ/JLM IPP Rev:G 08-05-16 chg QC6 to QC15 DD verf:EC IPP Rev:H 08-06-03 update per DSI9415
(ECN1198) DD verfec IPP Rev:I 08-07-14 add (scribe inside of tube) seq.6 DD verf:EC IPP Rev:J 08-07-28
update per (par 08-013) DD verf:EC IPP Rev K 09.01.06 ECN 08-562 EC verf:DD IPP REV:L 11.08.05 PER
ECN 11-615 DD VERF:EC IPP REV:M 12.08.20 DSI9628 revA (ECN12-631) DD VERF:JLM

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard Setup Run Hrs Hrs	Workcenter/Supplier	Lead Time	Sign-off
110	Packaging 1 - Pick Kit	1 pcs	11/29/19	0.00 0.00	Packaging 1 - 1			
					Packaging 1 - 2			
					Packaging 1 - 3			
					Packaging 1 - 4			
					Packaging 1 - 5			
					Packaging 1 - 6			
					Packaging 1 - 7			
					Packaging 1 - 8			
					Packaging 1 - 9			
					Packaging 1 - 10			
					Packaging 1 - 11			
					Packaging 1 - 12			
					Packaging 1 - 13			
					Packaging 1 - 14			
					Packaging 1 - 15			
					Packaging 1 - 16			
					Packaging 1 - 17			
					Packaging 1 - 18			
					Packaging 1 - 19			
					Packaging 1 - 20			
					Packaging 1 - 21			
					Packaging 1 - 22			
					Packaging 1 - 23			
					Packaging 1 - 24			
					Packaging 1 - 25			
					Packaging 1 - 26			
					Packaging 1 - 27			
					Packaging 1 - 28			



Container No: S233512



Part: D407-667-105
Job No: 202838
Serial No/Batch: S233512
Revision: D/D
Inspector:
Exp Date:
Instructions: TC STC SH01-5 Issue 3 of 3, FAA STC SR01304N

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TW 19-10-21



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JW 19-10-21

					Packaging 1 - 29	
					Packaging 1 - 30	
					Packaging 1 - 31	
					Packaging 1 - 32	
					Packaging 1 - 33	
					Packaging 1 - 34	
					Packaging 1 - 35	
					Packaging 1 - 36	
120	Crosstubes - Bend - 2 - B4B	1 pcs	11/29/19	0.50 1.00	Crosstubes - Bend - B4B	TW 19-11-21
130	QC 15	1 pcs	11/29/19	0.00 0.00	QC 15 - 12	
					QC 15 - 3	
					QC 15 - 47	
					QC 15 - 49	
					QC 15 - 58	
					QC 15 - 9	
					QC 15 - 68	NOV 21 2019 DAS 68 9-89
140	Crosstubes - 2 - B4B	1 pcs	11/29/19	0.00 1.28	Crosstubes - 1 - B4B	
					Crosstubes - 2 - B4B	
					Crosstubes - 3 - B4B	
					Crosstubes - 4 - B4B	
150	Crosstubes - 3 - B4B	1 pcs	11/29/19	0.00 0.50	Crosstubes - 1 - B4B	TW 19-11-22
					Crosstubes - 2 - B4B	EB 11/22/2019
					Crosstubes - 3 - B4B	
					Crosstubes - 4 - B4B	
160	QC 5	1 pcs	11/29/19	0.00 0.00	QC 5 - 10	
					QC 5 - 12	
					QC 5 - 17	
					QC 5 - 18	
					QC 5 - 19	
					QC 5 - 22	
					QC 5 - 24	
					QC 5 - 3	
					QC 5 - 43	
					QC 5 - 49	
					QC 5 - 51	
					QC 5 - 58	
					QC 5 - 68	NOV 22 2019 DAS 68 9-89
					QC 5 - 9	
					QC 5 - 50	
					QC 5 - 30	
					QC 5 - 40	
					QC 5 - 61	
					QC 5 - 81	
170	QC 7	1 pcs	11/29/19	0.00 0.00	QC 7 - 10	
					QC 7 - 13	
					QC 7 - 14	
					QC 7 - 15	
					QC 7 - 17	
					QC 7 - 18	
					QC 7 - 19	
					QC 7 - 2	
					QC 7 - 28	
					QC 7 - 3	
					QC 7 - 30	
					QC 7 - 34	
					QC 7 - 36	
					QC 7 - 37	
					QC 7 - 41	

Plex 11/4/19 1:23 PM Dart.lajeunesse.marie

			QC 7 - 47	
			QC 7 - 48	
			QC 7 - 51	
			QC 7 - 58	
			QC 7 - 59	
			QC 7 - 60	
			QC 7 - 9	
			QC 7 - 68	NOV 22 2019 68
			QC 7 - 50	9-89
			QC 7 - 67	
			QC 7 - 40	
			QC 7 - 24	
			QC 7 - 43	
			QC 7 - 61	
			QC 7 - 81	
			QC 7 - 76	
			QC 7 - 79	
180	Outsource - 2 - NDT per QSI038	1 pcs	11/29/19	SKY002-VC
190	Packaging 2-1 - Receive - B4B	1 pcs	11/29/19	0.00 0.00
			Packaging 2 - 1 - B4B	
			Packaging 2 - 2 - B4B	
			Packaging 2 - 3 - B4B	
			Packaging 2 - 5 - B4B	
			Packaging 2 - 4 - B4B	
			Packaging 2 - 6 - B4B	
			Packaging 2 - 7 - B4B	
			Packaging 2 - 8 - B4B	
			Packaging 2 - 9 - B4B	
			Packaging 2 - 10 - B4B	
			Packaging 2 - 11 - B4B	
			Packaging 2 - 12 - B4B	
			Packaging 2 - 13 - B4B	NOV 25 2019
			Packaging 2 - 14 - B4B	
			Packaging 2 - 15 - B4B	
			Packaging 2 - 16 - B4B	
			Packaging 2 - 17 - B4B	
			Packaging 2 - 18 - B4B	
			Packaging 2 - 19 - B4B	
			Packaging 2 - 20 - B4B	
			Packaging 2 - 21 - B4B	
			Packaging 2 - 22 - B4B	
			Packaging 2 - 23 - B4B	
			Packaging 2 - 24 - B4B	
			Packaging 2 - 25 - B4B	
			Packaging 2 - 26 - B4B	
			Packaging 2 - 27 - B4B	
			Packaging 2 - 28 - B4B	
			Packaging 2 - 29 - B4B	
			Packaging 2 - 30 - B4B	
			Packaging 2 - 31 - B4B	
			Packaging 2 - 32 - B4B	
			Packaging 2 - 33 - B4B	
			Packaging 2 - 34 - B4B	
			Packaging 2 - 35 - B4B	
			Packaging 2 - 36 - B4B	
200	QC 6	1 pcs	11/29/19	0.00 0.00
			QC 6 - 9	
			QC 6 - 68	
			QC 6 - 61	
			QC 6 - 40	NOV 25 2019 9-89

210	Spray Paint - 2 - B4B	1 pcs	11/29/19	0.00 2.00	QC 6 - 81	
					Spray Paint - 1 - B4B	
					Spray Paint - 2 - B4B	• R0 19-11-28
					Spray Paint - 3 - B4B	
220	QC 14	1 pcs	11/29/19	0.00 0.00	Spray Paint - 4 - B4B	
					QC 14 - 15	
					QC 14 - 2	
					QC 14 - 34	DAS
					QC 14 - 41	41 DEC 05 2019
					QC 14 - 51	3-88
					QC 14 - 58	
					QC 14 - 59	
					QC 14 - 9	
					QC 14 - 68	
					QC 14 - 40	
					QC 14 - 19	
					QC 14 - 43	
					QC 14 - 24	
					QC 14 - 61	
					QC 14 - 81	
230	Crosstubes - 4 - B4B	1 pcs	11/29/19	0.00 1.00	Crosstubes - 1 - B4B	
					Crosstubes - 2 - B4B	
					Crosstubes - 3 - B4B	DAS
					Crosstubes - 4 - B4B	41 DEC 05 2019
240	QC 5	1 pcs	11/29/19	0.00 0.00	QC 5 - 10	3-89
					QC 5 - 12	
					QC 5 - 17	
					QC 5 - 18	
					QC 5 - 19	
					QC 5 - 22	
					QC 5 - 24	
					QC 5 - 3	
					QC 5 - 43	
					QC 5 - 49	
					QC 5 - 51	
					QC 5 - 58	DAS
					QC 5 - 68	DEC 09 2019
					QC 5 - 9	88
					QC 5 - 50	9-89
					QC 5 - 30	
					QC 5 - 40	
					QC 5 - 61	
					QC 5 - 81	
250	Packaging 1-1 - Pick Kit - B4B	1 pcs	11/29/19	0.00 0.00	Packaging 1 - 1 - B4B	
					Packaging 1 - 2 - B4B	
					Packaging 1 - 3 - B4B	
					Packaging 1 - 4 - B4B	
					Packaging 1 - 5 - B4B	
					Packaging 1 - 6 - B4B	
					Packaging 1 - 7 - B4B	
					Packaging 1 - 8 - B4B	
					Packaging 1 - 9 - B4B	
					Packaging 1 - 10 - B4B	
					Packaging 1 - 11 - B4B	
					Packaging 1 - 12 - B4B	
					Packaging 1 - 13 - B4B	
					Packaging 1 - 14 - B4B	
					Packaging 1 - 15 - B4B	
					Packaging 1 - 16 - B4B	

260 QC 4	1 pcs	11/29/19	0.00 0.00	Packaging 1 - 17 - B4B	
				Packaging 1 - 18 - B4B	
				Packaging 1 - 19 - B4B	
				Packaging 1 - 20 - B4B	
				Packaging 1 - 21 - B4B	
				Packaging 1 - 22 - B4B	
				Packaging 1 - 23 - B4B	PC
				Packaging 1 - 24 - B4B	
				Packaging 1 - 25 - B4B	
				Packaging 1 - 26 - B4B	
				Packaging 1 - 27 - B4B	
				Packaging 1 - 28 - B4B	
				Packaging 1 - 29 - B4B	
				Packaging 1 - 30 - B4B	
				Packaging 1 - 31 - B4B	
				Packaging 1 - 32 - B4B	
				Packaging 1 - 33 - B4B	
				Packaging 1 - 34 - B4B	
				Packaging 1 - 35 - B4B	
				Packaging 1 - 36 - B4B	
				QC 4 - 28	
				QC 4 - 58	
				QC 4 - 69	
				QC 4 - 9	
				QC 4 - 46	
				QC 4 - 68	
				QC 4 - 72	
				QC 4 - 74	
				QC 4 - 75	
				QC 4 - 78	
270 Packaging 3-1 - Stock - B4B	1 pcs	11/29/19	0.00 0.00	Packaging 3 - 1 - B4B	
				Packaging 3 - 2 - B4B	
				Packaging 3 - 3 - B4B	
				Packaging 3 - 4 - B4B	
				Packaging 3 - 5 - B4B	
				Packaging 3 - 6 - B4B	
				Packaging 3 - 7 - B4B	
				Packaging 3 - 8 - B4B	
				Packaging 3 - 9 - B4B	
				Packaging 3 - 10 - B4B	
				Packaging 3 - 11 - B4B	
				Packaging 3 - 12 - B4B	
				Packaging 3 - 13 - B4B	
				Packaging 3 - 14 - B4B	
				Packaging 3 - 15 - B4B	
				Packaging 3 - 16 - B4B	
				Packaging 3 - 17 - B4B	
				Packaging 3 - 18 - B4B	
				Packaging 3 - 19 - B4B	
				Packaging 3 - 20 - B4B	
				Packaging 3 - 21 - B4B	
				Packaging 3 - 22 - B4B	
				Packaging 3 - 23 - B4B	
				Packaging 3 - 24 - B4B	
				Packaging 3 - 25 - B4B	
				Packaging 3 - 26 - B4B	
				Packaging 3 - 27 - B4B	
				Packaging 3 - 28 - B4B	
				Packaging 3 - 29 - B4B	

DAS
78
9-89
DEC 19 2019

DAS
78
9-89
DEC 19 2019

					Packaging 3 - 30 - B4B	
					Packaging 3 - 31 - B4B	
					Packaging 3 - 32 - B4B	
					Packaging 3 - 33 - B4B	
					Packaging 3 - 34 - B4B	
					Packaging 3 - 35 - B4B	
					Packaging 3 - 36 - B4B	
275 DC - 1 - B4B	1	11/29/19	0.00 0.00		DC - 1 - B4B	DAS
					DC - 2 - B4B	21 DEC 19 2019
280 QC 21 - FG	1	11/29/19	0.00 0.00		QC 21 - FG - 21	21
					QC 21 - FG - 70	21
					QC 21 - SA - 53	2-09 DEC 19 2019
					Broussard	

Part Op 110 - Pick Kit

Descriptions: 120 - CNC Alpha 160 Bender - Bend tube as per Dwg D407-667-145 using CNC bender program 407-fw

130 - QC15- Crosstube Dimensional Check

140 - Crosstubes ***** ENSURE PROPER JIG POSITIONING BEFORE DRILLING***** , VERIFIED

BY: MGA ***** 1- Drill holes & ream using drill Jig DT8541 & DT8542 as per Dwg D407-667-145. Drill all (3) top holes. Holes facing inboard. 2- Drill Fwd rivet holes using drill Jig DT8787 fwd as per Dwg D407-667-145. 3- C'sink holes as per Dwg D407-667-145. Allow rivet to sit below surface to compensate for paint. 4- Flip tube and switch drilling Jigs from right to left, left to right. Locate Jigs off existing holes using "T" pins .Drill ONLY 2 top holes ONLY plug most bottom holes to prevent accidental drilling. 5- Drill holes and ream using drill Jig DT8541 & DT8542 as per Dwg D407-667-145. Drill only the top (2) holes. 6- Drill Aft rivet holes using drill Jig DT8787 aft as per Dwg D407-667-145. 7- C'sink holes as per Dwg D407-667-145. Allow rivet to sit below surface to compensate for paint. 8- Scribe part # and batch # using vibrating stylus as per Dwg D407-667-145 9- *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** Debur & Inspect for surface damage. Repair damage within limits as per Dwg D407-667-145

150 - Crosstubes Chemical Conversion ***IMMEDIATELY AFTER GRINDING*** 1- PRESSURE WASH X-TUBE INSIDE AND OUT 2- ALODINE ~~AND ACID ETCH~~ X-TUBE INSIDE AND OUT AS PER QSI005.

160 - QC5- Inspect part completeness to step on W/O

170 - QC7-Inspect Chemical Conversion Coat

180 - Outsource process - NDT per QSI038 4.1 *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** OUTSIDE SERVICE -CROSSTUBES Liquid Penetrant Inspection as per QSI 038 Or Level 2 Attach copy of NDT results to work order

190 - Receive & Inspect for Damage & Mat'l Certs *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** Inspect for transit damage

200 - QC6- All purchased or subcontracted products *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** Inspect for damage & ensure results are as per Dwg D206-667-145

210 - Spray Paint / NDT Room *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** ***MASK AREA UNDER CLAMP PRIOR TO PAINTING AS PER DWG*** 1-Prime inside and outside crosstube as per QSI 005 4.2.1 *****Let tube sit up right for 30mins before hanging***** P4500-P-23 Base Batch: 5149123 P4500-C-23 Catalist Batch: _____ Start time: _____ Finish: _____ *** WEAR LATEX GLOVES WHEN HANDLING

CROSSTUBE*** 1-Paint outside crosstube with White Imron as per QSI 005 4.2 Imron 55U white paint

Batch: 5231052 Imron 125S activator Batch: _____ Start: _____

220 - QC14- Inspect Spray Paint Then,Wrap in plastic bag to protect from scratches

230 - Crosstubes - INSTALL GROUNDING CLAMP AND SEAL WITH SIKAFLEX AS PER DWG A/R SIKAFLEX

BATCH: 5229995 1-Abraide mating surfaces of support and crosstube with 180 grit sandpaper, clean the area with MEK or equivalent as per dwg 2-Install supports with Proseal 890 per D407-667-145 and QSI 015 A/R Proseal 890 Batch: 5299995 EXP: 20/9 3-Install supports clamps Using Dt9565 as per Dwg D407-667-145,Torque to 80-100 IN-LBS. Start: 19-12-4 Finish: 19-12-7 4-Install nut plates as per Dwg D407-667-145. Touch-up rivet heads with Imron paint.

240 - QC5- Inspect part completeness to step on W/O ***RE-CHECK TORCQUE ON CLAMP AFTER PROSEAL HAS CURED FOR 72HOURS AS PER DWG.***

250 - Pick Kit

260 - QC4- 100% Inspect kits for completeness

270 - Identify and pack for shipping as per PPP D407-667-105 Location : FG097

275 - Document Control - Photocopy bluefile and create labels as per PPP D407-667-105 CHG005

280 - QC21- Final Inspection - Work Order Release

Job BOM				
Part / Item	Component Name	Quantity	Operation	Container
D407-667-105TRN	Crosstube Turning Detail	1 pcs (1 ea)	110-Packaging 1 - Pick Kit	5210352
D2873-043	Nut Plate Assembly	2 pcs (2 ea)	230-Crosstubes - 4 - B4B	5200898
D2873-045	Nut Plate Assembly	2 pcs (2 ea)	230-Crosstubes - 4 - B4B	5186342
D2891-1	Support 2.25	2 pcs (2 ea)	230-Crosstubes - 4 - B4B	5276252
D3595-063-395	Rubber Cushion 0.63" Wide X 3.95" Long	4 pcs (4 ea)	230-Crosstubes - 4 - B4B	5219262
MS20601-AD4W10	Rivet	14 Ea (14 ea)	230-Crosstubes - 4 - B4B	5222583
MS21920-20	Clamp	4 Ea (4 ea)	230-Crosstubes - 4 - B4B	5103843
AN742D36	Plain Clamp Loop	2 Ea (2 ea)	230-Crosstubes - 4 - B4B	
MS21042-3	Nut use MS21042L3 per QSI 017	2 Ea (2 ea)	230-Crosstubes - 4 - B4B	
MS27039-1-08	Screw	2 Ea (2 ea)	230-Crosstubes - 4 - B4B	528620
MS9165-05	Bracket	2 Ea (2 ea)	230-Crosstubes - 4 - B4B	
NAS1149C0332R	Washer (AN960C10L)	4 Ea (4 ea)	230-Crosstubes - 4 - B4B	
AN5-10A	Bolt	10 Ea (10 ea)	250-Packaging 1-1 - Pick Kit - B4B	5208830
AN5-30A	Bolt	4 Ea (4 ea)	250-Packaging 1-1 - Pick Kit - B4B	5208330
AN5-32A	Bolt	4 Ea (4 ea)	250-Packaging 1-1 - Pick Kit - B4B	5119558
MS21042L5	Nut	4 Ea (4 ea)	250-Packaging 1-1 - Pick Kit - B4B	5208642
NAS1149D0563J	Washer	18 Ea (18 ea)	250-Packaging 1-1 - Pick Kit - B4B	5205260
				013350

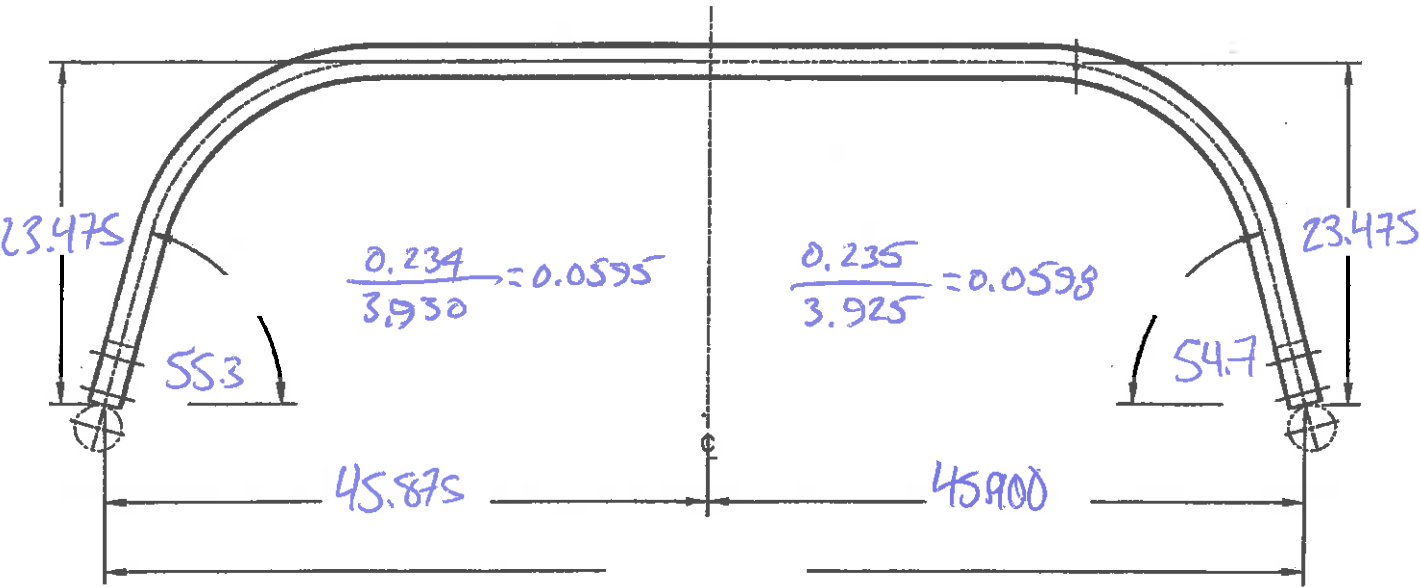
Job Allocations				
Operation	Component Part	Required	Inventory	Allocated
110-Packaging 1 - Pick Kit 230-Crosstubes - 4 - B4B	D407-667-105TRN	1	4	0
	AN742D36	2	27	0
	D2873-043	2	83	0
	D2873-045	2	20	0
	D2891-1	2	2	0
	D3595-063-395	4	39	0
	MS20601-AD4W10	14	211	0
	MS21042-3	2	440	0
	MS21920-20	4	47	0
	MS27039-1-08	2	154	0
	MS9165-05	2	41	0
	NAS1149C0332R	4	4,412	0
	AN5-10A	10	226	0
	AN5-30A	4	60	0
250-Packaging 1-1 - Pick Kit - B4B	AN5-32A	4	245	0
	MS21042L5	4	620	0
	NAS1149D0563J	18	1,319	0

Part Specifications

Specifications could not be found.

DART AEROSPACE LTD	Work Order:	202838
Description: Crosstube High Fwd (407)	Part Number:	D407-667-105
Inspection Dwg: D407-667-145	Rev: d	Page 1 of 1

Required Dimension	Min	Max
Height	23.41	23.67
1/2 Span	45.81	46.07
Angle	54	56
Total Span	91.62	92.14
Bending Passes	6	--
Crushing	--	6%



	Side A	Side B
Bending Passes	17	17
Crushing	6.0%	6.0%
Comments		

1.848
2.082

1.845
2.030

QC15 Inspection	DAS 68
Date	NOV 21 2019

Rev	Date	Change	Revised by	Approved
A	07.02.06	New Issue	KJ/JM	
B	09.11.12	Dimensions updated per Dwg Rev C	KJ	
C	12.04.16	Added bending, crushing dimensions	KJ	
D	12.10.30	Revised Total Span dimensions & Dwg Rev	KJ	
E	19.03.22	Drawing Rev updated to D	MC	

Item	Qty	Part Number	Description
	-145		
1	X	D407-867-145	CROSSTUBE ASSEMBLY (407 HIGH FWD)
2	1	D8010-115	CROSSTUBE
3	2	D2873-043	NUT PLATE
4	2	D2873-045	NUT PLATE
5	2	D2891-1	SUPPORT
6	4	D3595-083-395	RUBBER CUSHION
7	4	MS21920-20	CLAMP (OR MS21920-21)
8	14	MS20601AD4W10	RIVET (OR NAS9302B-4-10)
9	A/R	PROSEAL 880 B-2	SEALANT, AMS-S-8802 CLASS B-2
10	2	AN742D38	CLAMP
11	2	MS9185-05	ANGLE BRACKET
12	2	MS21042L3	NUT (OR MS21042-3)
13	2	MS27038-1-08	SCREW
14	4	NAS1148C0332R	WASHER (OR AN660C10L)

GENERAL NOTES:

- 1) MATERIAL: MANUFACTURED FROM D6010-115
FINISHED LENGTH = 113.20±0.020
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005.4.1
PRIME INSIDE AND OUTSIDE PER DART QSI 006.4.2
PAINT OUTSIDE PER DART QSI 005.4.2
TOLERANCES ARE PER DART QSI 016 UNLESS OTHERWISE NOTED.
- 3) TOLERANCES ARE PER DART QSI 016 UNLESS OTHERWISE NOTED.
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- 6) IDENTIFICATION: SCRIBE DART PART NUMBER "D407-867-145" AND BATCH NUMBER ON INSIDE OF CLIFF USING VIBRATING STYLUS.
- 7) WEIGHT: 17.8 lbs
- 8) PART IS SYMMETRIC ABOUT CENTERLINE.
- 9) RUN CUTTER OFF PART WHERE INDICATED. BLEND OUT EDGE LONGITUDINALLY.
- 10) BEND PROGRESSIVELY WITH A MINIMUM OF 8 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.
- 11) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 12) TO INSTALL D2891-1 SUPPORT, ABRASE MATING SURFACE OF SUPPORT AND CROSSTUBE WITH 180-GRIT SANDPAPER AND REMOVE RESIDUE WITH MEK (OR EQUIVALENT). APPLY A 0.04" TO 0.07" THICK LAYER OF PROSEAL 880 CLASS B-2 (OR AMS-S-8802 CLASS B-2) SEALANT TO MATING SURFACE OF SUPPORT.
- 13) INSTALL MS21920-20 CLAMPS (OR -21) WITH D3595-083-395 RUBBER CUSHIONS TO SECURE THE D2891-1 SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMP MECHANISMS ARE LOCATED ON CROSSTUBE SUPPORTS.
- 14) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS ARE SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING. PRIOR TO PACKAGING, RE-CHECK TORQUE ON CLAMPS AFTER PROSEAL 880 SEALANT HAS CURED FOR 72 HOURS.
- 16) MASK AREA UNDER CLAMP PRIOR TO PAINTING.
- 17) SEAL EDGES WHERE AN742D38 CLAMP MEETS WITH THE CROSSTUBE USING SIKAFLEX-241/-291 OR MIL-S-8802 CLASS B2 OR PROSEAL 880 SEALANT.
- 18) PERFORM RESISTANCE CHECK TO ENSURE MAX RESISTANCE IS 10 MEGOHMS.

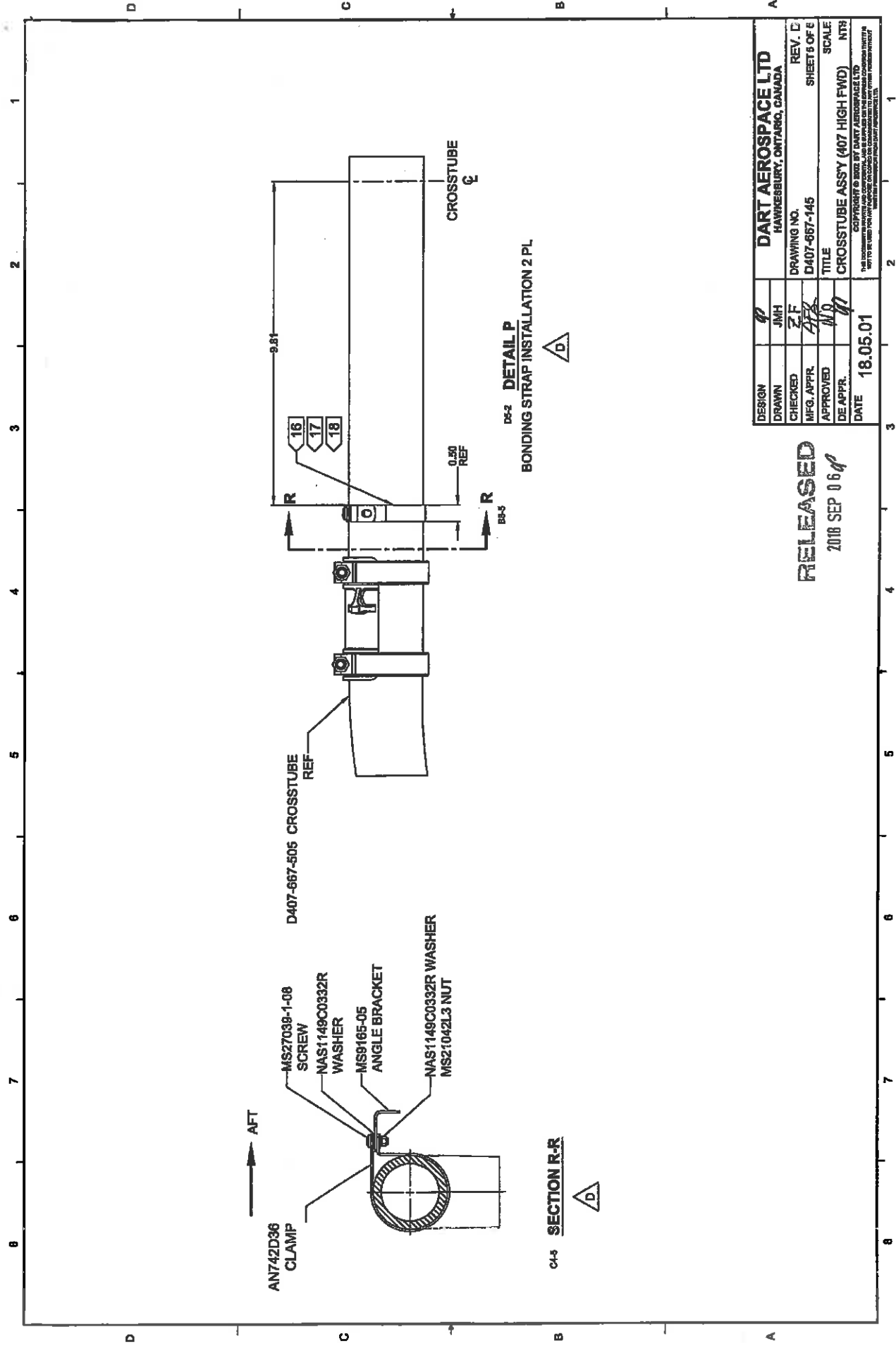
RELEASED

2018 SEP 06
2018-09-07

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UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE

WORK ORDER
NO. 202838 MJS
19-11-04

D	REVISE SHEET 2 ASSEMBLY DETAIL HOLE PATTERN PER CAR18/221. UPDATE PARTS LIST AND GENERAL NOTES 12.4, 15 TO INCORPORATE DEC C-1. ADD ITEMS 10-14 TO PARTS LIST. ADD GENERAL NOTES 18-18 AND ADD SHEET 3 TO INCORPORATE DEC C-2.	JMH	18.05.01
C	REVISE GENERAL NOTES/PART LIST (21 D7-1); REORGANIZED VIEWS AND REFORMATTED DRAWING TO CURRENT STANDARDS. D3595-083-395 WAS D2899-400-684 (21 D6-2 & A5-2); REMOVED REF. 7 ADD TOLERANCES (21 C8-3, C4-3, D2-3); RELOCATED FLAG #8 (21 A5-3) PER RCR 210; MOVED TURNING DETAIL & UPDATED TOLERANCE TO SHEET 4.	RF	08.11.06
B	ADD HOLES AND NUT PLATES FOR COMPATIBILITY WITH BHTMA SKUDTUBES	PH	05.07.28
A	NEW ISSUE	CP	02.05.08
REV.	DESCRIPTION	BY	DATE
DESIGN	JMH		
DRAWN	JMH		
CHECKED	ZF		
MFG. APPR.	AFZ		
APPROVED	NO		
DE APPR.			
DATE	18.05.01		
DART AEROSPACE LTD HAWTHORNTOWN, ONTARIO, CANADA			
REV. D D407-867-145 SHEET 1 OF 5			
TITLE CROSSTUBE ASSY (407 HIGH FWD)			
SCALE NTS			
COPYRIGHT © 2002 BY DART AEROSPACE LTD THIS DRAWING IS THE PROPERTY OF DART AEROSPACE LTD. IT IS TO BE USED FOR THE PURPOSES SPECIFIED ONLY. IT IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT PERMISSION IN WRITING FROM DART AEROSPACE LTD.			



DESIGN	φ	DART AEROSPACE LTD
DRAWN	JMH	HAWKESBURY, ONTARIO, CANADA
CHECKED	Z F	DRAWING NO.
INFO. APPR.	W.D.	D407-667-145
APPROVED	W.D.	TITLE
DATE	18.05.01	CROSSTUBE ASSY (407 HIGH FWD)
		SCALE
		NTS

RELEASED
2018 SEP 06

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Entered: _____ Date: _____

WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐



Job: _____ Part No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐		DEPARTMENT/PROCESS Skid-tube ☐ Cross tube ☐ Eng. (Non-AW) ☐ Machining ☐ Small Fab ☐ Prod. Eng. Coord. ☐ Large Fab ☐ Finishing ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☐ Quality ☐							
Date : _____		Sequence # : _____		QTY Affected : _____		MRB (QS1042)					
Description Work Order Deviation				Disposition							
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Preservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐				FAULT CATEGORY Pressure/Forced ☐ Contamination ☐ Power Loss/Surge ☐ Bending ☐ Misaligned/off center ☐ Folio/Program ☐ Crushing ☐ BOM/Route ☐ Grain Direction ☐ Cracks ☐ Broken/Damage/Defect ☐ Weld ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Incomplete/Unclear Instructions ☐ Wrong Stock Pulled ☐ Marks/Chatter ☐ Drill Holes ☐ Out of Sequence ☐ Mislabelled ☐ Fit/Function ☐ Off-set/Set-up ☐ Other/Details: _____				Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread ☐			
Completed By _____				Lead hand / Supervisor _____							
QC / QA Coordinator _____											



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER POHB045184



Supplier: SKY002-VC
Skyservice
6120 Midfield Road
Mississauga
ON
L5P 1B1 Canada
Phone: 905-678-5836
Fax: 905-678-5841

Attention: Jenne, Heather

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

PO No: POHB045184

PO Date: 11/22/19

Due Date: 11/25/19

Purchase Order

Revision:

Revision Date:

Ship-To Contact: Guerin, Kimberley
Phone: 613-632-5200 Ext: 298
kguerin@dartaero.com

Via: Ground

Pynt Terms: Net 30

Freight Terms:

Special Comments:

Items

Line Item	Job	Part	Drawing	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	202838	D407-667-105	D407-667-145/ IIN-D206-667 D/D	Fwd Crosstube - High 407 : TC STC SH01-5 Issue 3, FAA STC SR01304NY 05/12/15, JCAB JAPAN STC-32-OSA 02/02/28, EASA STC EASA.IM.R.S.01179 06/07/03, BRAZIL 2009S08-16 09/08/25, BRAZIL 2009S08-17 09/08/25 Outsource process - NDT per QSI038 4.1 *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** OUTSIDE SERVICE - CROSSTUBES Liquid Penetrant Inspection as per QSI 038 Or Level 2 Attach copy of NDT results to work order	Firmed	-	11/25/19	1 pcs	0 pcs	1 pcs	\$417.50/pcs	\$417.50
							NOV 25 2019					
	200240				Firmed	-	11/26/19	1 pcs	0 pcs	1 pcs	\$417.50/pcs	\$417.50
Sub Total:								2	0	2		\$835.00
Grand Total:												\$835.00

Guerin



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER
POHB045184



Order Notes

Procurement Quality Clauses

- A005 right of entry
- A012 chemical and physical test report
- A016 personnel qualification
- A017 raw material identification (as applicable)

- A022 Apical Processing
- A024 process certifications
- A026 certification of material conformance

- A041 quality management system
- A042 dart notification by supplier
- A043 retention of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Plex 11/25/19 1:14 PM Dart.Guerin.Kimberley



Work Order Traveler

Sky Service F.B.O. Inc.

1035 Ryan Avenue, Dorval, Quebec, H9P 1A2

TCCA AMO 53-89 / EASA 145.7142 / BDA AMO 385

WO #: MWO42624	Customer: Dart Aerospace Ltd.	Dept: NDT YUL	Reference: POHB045184
Descr:	PN:	S/N:	Qty: 1
Make:	Model:	Reg:	A/C S/N:
TSN:	CSN:	TSO:	

Task: UNSCHEDULED	Sequence: 1
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Work Required:

CARRY OUT NDT ON 2 FWD CROSSTUBES P/N: D407-667-105 , J/S: 200240 , 202838

DAS
40
9-89

Action Taken:	Date:	Initial/Stamp:
LPI C/O IAW ASTM E-1417M-16 ***NO CRACK FOUND*** PEN. ZL-67, MPO25403, CLEANER SKC-S MPO13923 , DEV. MPO11715 , UV LIGHT M-20142	NOV 25 2019	

Miscellaneous AD Review Performed: ☐ No applicable AD's noted ☐ Refer to action taken for applicable AD's

Description	Location	P/N	Qty	Batch	S/N Off	S/N On

RECEIVED

NOV 25 2019

DART AEROSPACE LTD.

I certified that the maintenance described above has been performed in accordance with the applicable standard of airworthiness.

Signature:	ACA/SCA Stamp	Date:
Name: RAFIK MELIKIAN		NOV 25 2019